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FLIGHT IDENTIFICATION OF INDIAN RAPTORS WITH PALE BARS ON UPPER WINGS¹

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(With two colour plates)

INTRODUCTION

Diurnal raptors are notoriously difficult to identify in flight; raptors in India are even more so than in most other areas because of the greater number of species (68) and the lack of definitive information in bird field guides. In Europe raptor flight identification is easier not only because there are fewer species (38), but also because there is a very good specialized field guide (Porter *et al.* 1981). This guide is effective because it depicts correctly wing and tail shapes of the raptors, as well as pointing out definitive *field marks*, that is, noticeable features of each species that serve to distinguish it from other species.

No fewer than nine species of raptors that occur commonly over much of India share one field mark: a pale bar across each upperwing (Plate 1). Four of these — black kite *Milvus migrans*, booted eagle *Hieraaetus pennatus*, short-toed eagle *Circaetus gallicus*, and white-eyed buzzard *Butastur teesa* — show this field mark in all plumages. The other five — brahmyni kite *Haliastur indus*, crested honey buzzard *Per-*

nis ptilorhyncus, crested hawk-eagle *Spizaetus cirrhatus*, crested serpent eagle *Spilornis cheela*, and Bonelli's eagle *Hieraaetus fasciatus* — show this mark only in juvenile plumage.

In spite of sharing this field mark, all nine are quite different, particularly when seen from below, and can be easily distinguished from each other by the use of other field marks, especially wing and tail shape.

We present herein, through simple text and illustrations, the field marks that can be used effectively to identify all nine species in flight.

MATERIAL AND METHODS

Field marks to distinguish these nine species were determined from our previous experiences, by reviewing the pertinent literature, including bird field guides and handbooks, by studying museum specimens, both in India and at major collections in the United Kingdom and United States of America, by studying many photographs of raptors in the field, and by observing raptors in the field in many parts of India. Particularly helpful to us was Porter *et al.* (1981), as many species of European raptors (31) also occur in India. We field-tested the field marks presented here in the field in many parts of India during travel with the BNHS Birds of Prey Project surveys.

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RESULTS

The field marks, including wing and tail shapes and overall proportions, that will positively identify each of the nine species with pale bars on upperwings are illustrated in Plate 1 (from above) and Plate 2 (from below) and are summarised under the heading 'CAPTIONS FOR PLATES.' These are discussed below in more detail by species.

Black kite: (This name for *Milvus migrans* applies to all races; pariah kite is unknown outside of India). This distinctive raptor is common, widespread, and easily identified. The next two species are similar and could be confused with it, but its long forked tail is always definitive. However, caution is called for because the tail appears somewhat more square when fanned and a few individuals will show a somewhat rounded tail. Also definitive is the barring on the pale primary panels. Subspecific differences between *M. m. govinda* and *M. m. lineatus* are not always seen in the field.

Booted eagle: This winter visitor is fairly common over most of India and can be confused with the black kite. Like that species it is aerial, hunting on the wing from morning to afternoon. It occurs in three colour morphs: pale, dark, and newly described rufous (see Clark 1989). Dark- and rufous-morph birds are similar to black kites, but the white uppertail coverts, more rounded tail, pale 'head lights,' and dark line through the underwings of the rufous morph are diagnostic. All colour morphs appear alike from above.

Brahminy kite: Juvenile brahminy kites are similar in silhouette to black kites and booted eagles, but note the pale head and breast, rounded, unbanded tail, and larger, creamy primary panels on the underwings.

The next four species show pale wing bars only during their first year while in juvenile plumage. This plumage is quite different in all four from the respective adult plumages. All four juveniles are similar to each other in being rather pale buffy to creamy on the underparts and underwing coverts, and have less distinct pale bars on the upperwings than do the previous three species.

Crested honey buzzard: This species has a distinctively long, slender neck and head that it moves constantly from side to side while in flight. Its comparatively narrow wings with darker secondaries on the underwing and its distinctive tail pattern are sufficient for identification.

Crested hawk-eagle: Compared to the other species considered here, it has a longer, distinctively banded tail and more strongly barred undersides of primaries. The crest, if present, is visible only on birds seen flying near (Plate 1). The juvenile of the crestless changeable hawk-eagle *Spizaetus c. limnaeetus* is otherwise identical to the juvenile of the crested hawk-eagle.

Crested serpent eagle: This is the most easily identified of these four juveniles, because of its black face patches, rufous underwing markings, strong tail pattern, and heavily streaked breast.

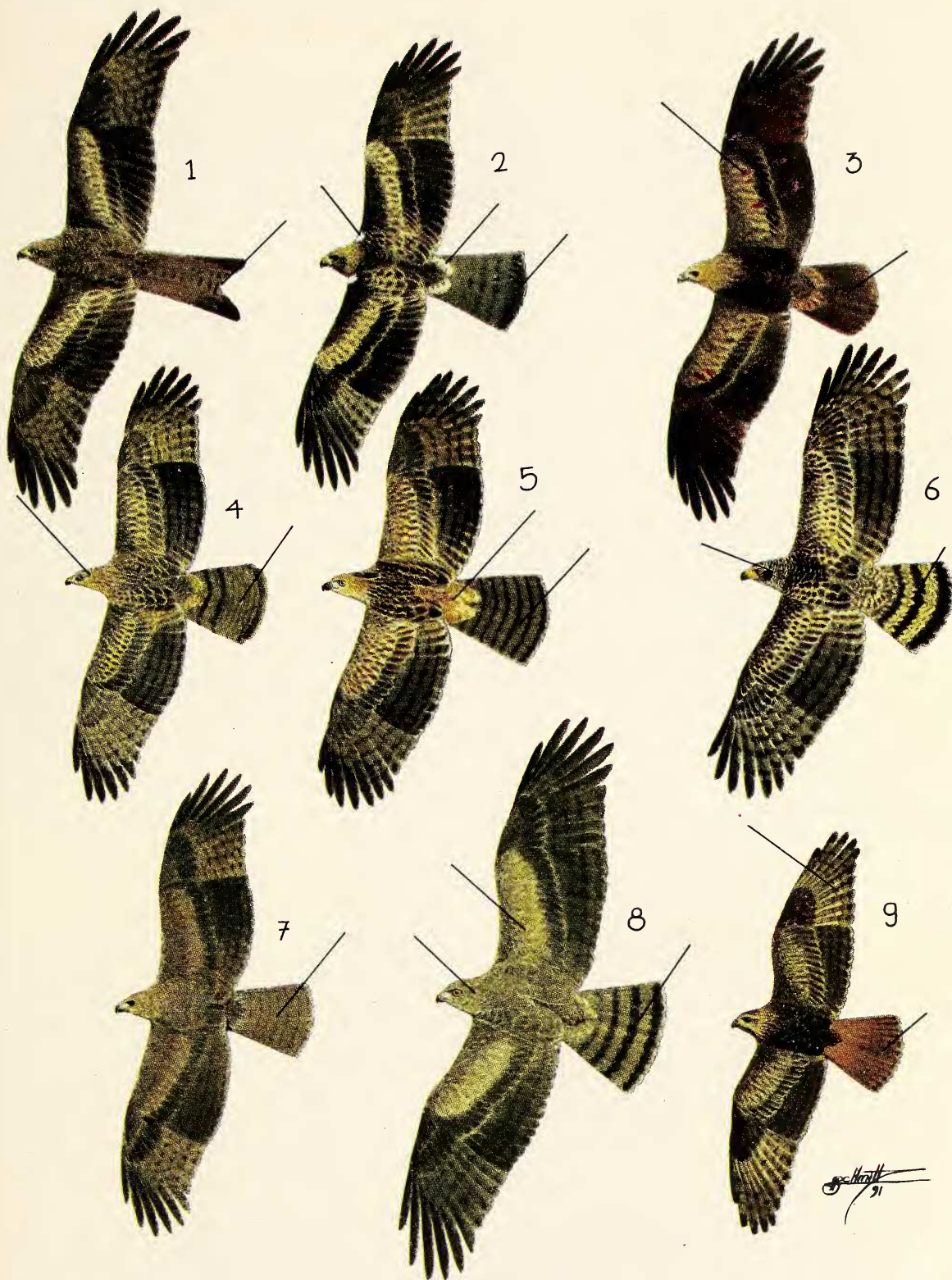
Bonelli's eagle: Juveniles of this species have rufous underparts when they fledge. But this colour fades rather quickly, so that by winter they appear quite creamy on the underparts. The black line on the underwing may be prominent or indistinct or, in some cases, even absent. One field mark, darker secondaries on underwing, is shared with crested honey buzzard, but the indistinct banding on secondaries and tail and thicker head and shorter neck of this species separate it from the other.

Short-toed eagle: This species is the largest of the nine. Its pale upperwing bars are somewhat wider than all the others, except those of the white-eyed buzzard. The dark hood, lack of creamy tones on undersides, and strong banding on underwings are distinctive.

White-eyed buzzard: This is the smallest of the nine and is quite different from the rest. Note particularly the narrow black tips of the outer primaries, rufous tail, and unique wing shape.

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Raptors with pale bars on upper wings —Identification from above. For explanation see captions (page 3).